ABSTRACT OF THE DISCLOSURE

A machinable austempered cast iron article has improved strength, machinability, fatigue performance, and resistance to environmental cracking. A method of making the machinable austempered cast iron article includes austenitizing an iron composition having a substantially pearlitic microstructure in an intercritical temperature range of between 1380°F and 1500°F. This produces a ferritic plus austenitic microstructure. The ferritic plus austenitic microstructure is quenched into an austempering temperature range of between 575°F and 750°F within 3 minutes to prevent formation of pearlite. The ferritic plus austenitic microstructure is then austempered in the austempering temperature range of between 575°F and 750°F to produce a microstructure of a continuous matrix of equiaxed ferrite with islands of austenite. Finally, the microstructure of the continuous matrix of equiaxed ferrite with islands of austenite is cooled to ambient temperature to produce the machinable austempered cast iron article.